

REMARKS

Claims 9-16 and 18 are pending in this application.

By this Amendment, claims 9 and 10 are amended, as the Examiner suggested.

Claim 11 is amended to incorporate the subject matter of claim 17. Claim 17 is canceled. The Abstract is amended to reduce the number of words below 150.

The specification is amended to provide brief descriptions to reference characters b, 6, 15, 16, 18, 22 and 24 that are shown in the drawings as originally filed. However, these descriptions are not included in the originally filed specification. The addition of these brief descriptions is based on the specification of the priority document of the present application. No new matter is added.

Reconsideration of the application is respectfully requested.

Applicants thank Examiner Leyson for the courtesy extended to Applicants' representatives, Messrs. Tomio Suzuki and Gang Luo, during the August 15, 2006 personal interview. The substance of the personal interview is incorporated in the following remarks.

The Office Action objects to the drawings. The specification is amended to provide brief descriptions to reference characters b, 6, 15, 16, 18, 22 and 24 in Figs. 1-3 based on the specification of the priority document of the present application, as discussed above. Applicants will file an accurate translation of the priority document for the Examiner to confirm that the English-language brief descriptions of the reference characters incorporated in the specification of the present application are accurate translation of the priority document. Accordingly, withdrawal of the objection to the drawings is respectfully requested.

The Office Action objects to the specification. The Abstract is amended, as the Examiner requested. Accordingly, withdrawal of the objection to the specification is respectfully requested.

The Office Action rejects claims 9, 10 and 17 under 35 U.S.C. §112, first and second paragraphs. Claims 9 and 10 are amended, as the Examiner suggested. Claim 17 is canceled. Accordingly, withdrawal of the rejection of claims 9, 10 and 17 under 35 U.S.C. §112, first and second paragraphs is respectfully requested.

The Office Action rejects claims 9 and 10 under 35 U.S.C. §103(a) over U.S. Patent No. 3,790,654 to Bagley in view of U.S. Patent No. 4,834,640 to Inoue and U.S. Patent No. 1,973,428 to Comstock, or over Japanese reference (2000-326318) in view of Bagley; or under the judicially created obviousness type double patenting over claims of copending Application No. 10/507,413 or 11/186,970 in view of Bagley. The Office Action rejects claims 11-18 under 35 U.S.C. §103(a) over Bagley in view of Inoue, Comstock and U.S. Patent No. 5,219,509 to Cocchetto, or over Japanese reference (2000-326318) in view of Bagley, Inoue and Cocchetto; or under the judicially created obviousness type double patenting over claims of copending Application No. 10/507,413 or 11/186,970 in view of Bagley, Inoue and Cocchetto. These rejections are respectfully traversed.

The Office Action recognizes that Bagley does not disclose or suggest the connection area ratio recited in claim 9, but asserts that one of ordinary skill in the art would have been motivated to modify Bagley with such a connection area ratio in view of Bagley's teaching of required strength.

However, Bagley only discloses a desire for strength and rigidity. Such a desired strength and rigidity does not even suggest the connection area ratio recited in claim 9. That is, Bagley does not disclose selecting any particular area ratio to effect the strength, and certainly does not disclose or suggest the area ratio of claim 9. Bagley provides only a general teaching about strength and rigidity but discloses nothing about how those qualities might be obtained. A general teaching to provide a desired strength and rigidity does not render obvious Applicants' claimed area ratio.

A particular parameter must first be recognized as a result effective variable before the determination of the optimum ranges of that variable can be characterized as routine experimentation. See MPEP 2144.05 II (B). Bagley does not even recognize that a connection area ratio is a factor that affects the strength of the block cells. Bagley thus also fails to appreciate that a particular connection area ratio range when used for a specific material, such as cemented carbide, is critical to obtain the requisite block cell strength. Thus, Bagley's desire for strength does not support the alleged motivation to modify Bagley to have the specific connection area ratio recited in claim 9.

The Office Action further asserts that an apparatus having a connection area ratio of back hole and cell block of 35 to 65%, as recited in claim 9, "would not perform differently than the prior art device." (See the Office Action at page 6, lines 16-21.) This assertion is false and not supported by any facts.

In particular, as discussed during the personal interview, the feature "the connection area ratio of the back hole and the cell block being 35 to 65%" for cemented carbide is a critical feature that renders the apparatus recited in claim 9 distinct from devices that do not have the claimed connection area ratio. As disclosed in the specification at, for example, Table 2 and page 13, lines 7-18, broken cell blocks occur when the connection area ratio is above 70% or below 30%, while broken cell blocks are absent when the connection area ratio is within the critical range of 35 to 65%. Thus, the connection area ratio feature recited in claim 9 does perform differently from devices that do not have the claimed area ratio.

For at least the above reasons, one of ordinary skill would not have been motivated to modify the die of Bagley to have a connection area ratio of back hole and cell block of 35 to 65%, as recited in claim 9, and similarly recited in claim 11.

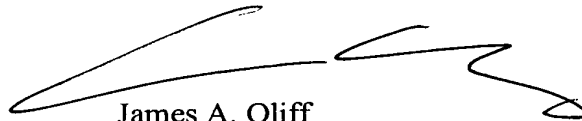
In view of the above, the applied references do not disclose or suggest the subject matter recited in claims 9 and 11, and claims 10, 12-16 and 18 depending therefrom.

Accordingly, withdrawal of the rejection of claims 9-16 and 18 under 35 U.S.C. §103(a) is respectfully requested.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 9-16 and 18 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Attachment:
Amended Abstract

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